

REMARKS

The Office action mailed April 10, 2002, in which the Examiner rejected pending claims 1-13, has been reviewed, and certain amendments have been made to the application. In view of the following remarks, Applicants respectfully submit that the application is in condition for allowance.

Claims 1, 4, 6, 9 and 11-13 were rejected under 35 U.S.C. 102(b), as being anticipated by Burrows (US 5,856,031). The Examiner stated that Burrows discloses, in figs 1 and 2, a sign with a surface and an illuminated design coupled thereto, a first electrode (16) formed on the sign surface having a lead that extends to a perimeter of a surface of the sign, a luminescent layer (14) substantially aligned with the first electrode, a conductor layer (13), a second electrode (11), an interconnect tab portion (19) having a male end, and (column 6, lines 25-45) a connector. In consideration of the amendments to the claims and the arguments made below, reconsideration of this rejection is respectfully requested.

Burrows discloses an EL lamp system in kit form where various layers of an electroluminescent lamp are applied to a substrate. First, a rear electrode 16 is deposited on a substrate 17. Then, a dielectric layer 15 is deposited on the rear electrode 16. Next, a luminescent layer 14 is deposited on the dielectric layer 15. Still further, a translucent electrode 13 is deposited on the luminescent layer 14. Finally, a copper bus bar 11 is placed in contact with the translucent electrode 13 and vertically overlying a portion of the translucent electrode 13, luminescent layer 14 and rear electrode 16, as best seen in Fig. 2.

Claim 1 has been amended to more clearly describe the interconnect tab and connector configuration shown in Figs. 3 and 4. The interconnect tab portion is adjacent the sign perimeter and has two slots formed into the sign substrate to define a male end having front and rear electrode leads. The male end is matingly received by the slide connector such that the leads are surrounded by the connector and are electrically connected with contacts disposed within the connector. The connector further has a key

pin that is received by a key slot of the interconnect tab to ensure the connector is properly oriented on the tab.

Burrows does not disclose an interconnect tab having slots extending inward from the sign or substrate perimeter to define a male end, nor a connector configured to extend into the slots for releasably mating with the interconnect tab portion to provide electrical power to the first and second electrodes, as claimed in the Applicant's amended Claim 1. The Applicant's design ensures that a solid connection is made between the interconnect tab and the connector. Burrows merely states that a power source maybe be connected electrically to rear electrode 16 via contact 19.

Thus, Claim 1 is not anticipated and Applicant respectfully requests that the Examiner withdraw the 35 U.S.C. 102(b) rejection of claim 1 based on the Burrows reference. Claims 2-5 depend directly or indirectly from claim 1. As these dependent claims include all of the elements of Claim 1, which is now believed to be allowable over the cited reference, Applicant asserts that these claims are also allowable. Withdrawal of the rejection of pending Claims 2-5 is respectfully requested.

Further, claim 6 also requires (a) phosphor and dielectric layers configured such that a perimeter of the dielectric layer extends beyond the perimeter of the phosphor layer to define an exposed dielectric layer; and (b) an outlining electrode formed onto the sealing layer and substantially circumscribing at least one of the perimeter of the phosphor layer (i.e., second perimeter) and the perimeter of a conductive layer (i.e., third perimeter). The exposed dielectric layer provides a surface onto which a sealant layer may be screen printed. This aids in preventing short circuiting and breakdown between the electrically conductive areas of the sign when the outlining electrode layer is formed on the sealing layer over the dielectric layer. Additionally, by making the outlining electrode circumscribe the phosphor layer and/or the conductive layer, both of which are substantially aligned with the first electrode, cross-over between the electrodes is minimized and the risk of short circuiting of the sign is reduced.

Burrows does not show the dielectric layer 15 extending beyond the perimeter of the luminescent layer 14. In both Figs. 2 and 4, the dielectric layer 15 and luminescent

layer 14 are shown to extend to the same distance to a perimeter edge such that the luminescent layer 14 vertically covers the dielectric layer 15. Burrows also does not show an outlying electrode substantially circumscribing the perimeter of the phosphor or conductor layers. As best seen in Figs. 2 and 4 of Burrows, the copper bus bar 11 is placed on top of the translucent electrode layer 13 and vertically above the rear electrode 16, not circumscribing or encircling the layers. In contrast, the front electrode 178 of the Applicant's invention is required to be placed along at least a portion of the perimeter of the of the conductor layer 176. As the conductor layer 176 is generally aligned with the phosphor layer 174, which is aligned with the first (rear) electrode 168, the front electrode 178 does not substantially cross-over the first electrode, minimizing the risk of short circuiting. Burrows does not provide an outlining electrode circumscribing the phosphor and/or conductor layers. Nothing in Burrows teaches or suggests configuring the second electrode to circumscribe the indium tin oxide layer to minimize cross-over between the light transmissive electrode and the rear electrode.

Thus, Claim 6 is not anticipated and Applicant respectfully requests that the Examiner withdraw the 35 U.S.C. 102(e) rejection of claim 6 based on the Burrows reference. Claims 7-13 depend directly or indirectly from claim 6. As these dependent claims include all of the elements of Claim 6, which is now believed to be allowable over the cited reference, Applicant asserts that these claims are also allowable. Withdrawal of the rejection of pending Claims 7-13 is respectfully requested.

Claims 2-3, 5, 7-8 and 10 were rejected under 35 U.S.C. 103(a), as being unpatentable over Burrows in view of Hoffman (US 5,497,572). The Examiner stated that Burrows discloses all of the above claim limitations but fails to clearly point out a locking pin and key pin, and that Hoffman discloses (fig 8) a locking pin and key pin (78) in order to hold the assembly together.

Claims 2-3, 5, 7-8 and 10 all depend directly or indirectly from independent Claims 1 and 6, which Applicant believes are now allowable over Burrows. With respect to Claim 1, as Hoffman does not disclose or suggest the structure lacking in Burrows, namely an interconnect tab having slots extending inward from the sign or substrate

perimeter to define a male end, nor a connector configured to extend into the slots for releasably mating with the interconnect tab portion to provide electrical power to the first and second electrodes, Claim 1 is necessarily patentable over Burrows in view of Hoffman. With respect to Claim 6, as Hoffman does not disclose or suggest the structure lacking in Burrows, namely (a) a dielectric layer extending beyond the perimeter of the luminescent layer, and (b) an outlining electrode formed onto the sealing layer and substantially circumscribing at least one of the perimeter of the phosphor layer and the perimeter of a conductive layer, Claim 6 is necessarily patentable over Burrows in view of Hoffman. Thus, as claims 2-3, 5, 7-8 and 10 depend directly or indirectly from Claims 1 and 6, which are now believed to be allowable over the cited references, Applicant asserts that these claims are also allowable. Furthermore, Fig. 8 of Hoffman shows screws (78) attaching a luminescent panel to a license plate bracket. These screws are not locking pins for holding a connector to a sign surface to provide electrical power to the electrodes of the sign, nor are they key pins for properly aligning such a connector with an interconnect tab portion. Thus, Claims 2-3, 5, 7-8 and 10 are not unpatentable over Burrows in view of Hoffman. Withdrawal of the rejection of pending Claims 2-3, 5, 7-8 and 10 is respectfully requested.

New Claim 14 further describes the electrode leads of the male end, as seen in Fig. 3, and the electrical contacts of the connector, as seen in Fig. 4. New Claim 15 further describes the locking holes and their location. New Claim 16 describes the key slot on the interconnect tab for receiving the key pin.

Based on the foregoing, it is submitted that the Applicant's invention as defined by the claims is patentable over the references of record. Issuance of a Notice of Allowance is solicited.

If the Examiner has any further requirements or suggestions for placing the present claims in condition for allowance, Applicants' undersigned attorney would appreciate a telephone call at the number listed below. This should be considered a complete response to the Examiner's Office Action of April 10, 2002.

Respectfully submitted,
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Marked-up Version of the Amended Claims

1. (Amended) A sign comprising a surface having a perimeter and an illuminated design coupled thereto, said illuminated design comprising:
 - a first electrode formed on said sign surface, said first electrode having a lead that extends to a perimeter of the surface of the sign;
 - a luminescent layer substantially aligned with said first electrode;
 - a conductor layer substantially aligned with said luminescent layer;
 - a second electrode formed onto said surface of said sign, said outlining electrode being configured to transport energy to said conductor layer;
 - an interconnect tab having a pair of spaced, parallel slots extending inward from the sign perimeter to define a male end; and
 - a connector configured to extend into the slots for releasably mating with said interconnect tab portion and for providing electrical power to said first electrode and said second electrode.